



17082-081001 / 24736-2073

SEQUENCE LISTING

<110> van den Boom, Dirk

Böcker, Sebastian

<120> FRAGMENTATION-BASED METHODS AND SYSTEMS  
FOR SEQUENCE VARIATION DETECTION AND DISCOVERY

<130> 24736-2073

<140> 10/723,365  
<141> 2003-11-26

<150> US 60/429,895  
<151> 2002-11-27

<160> 85

<170> FastSEQ for Windows Version 4.0

<210> 1  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Renin cleavage site

<400> 1  
Pro Phe His Leu Leu Val Tyr  
1 5

<210> 2  
<211> 5  
<212> PRT  
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<220>  
<223> Factor Xa cleavage site

<220>  
<221> VARIANT  
<222> 5  
<223> Xaa = Any Amino Acid Except Pro or Arg

<400> 2  
Ile Glu Gly Arg Xaa  
1 5

<210> 3  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Factor Xa cleavage site

<220>  
<221> VARIANT  
<222> 5  
<223> Xaa = Any Amino Acid Except Pro or Arg

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<400> 3
Ile Asp Gly Arg Xaa
 1           5

<210> 4
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Factor Xa cleavage site

<220>
<221> VARIANT
<222> 5
<223> Xaa = Any Amino Acid Except Pro or Arg

<400> 4
Ala Glu Gly Arg Xaa
 1           5

<210> 5
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Collagenase cleavage site

<220>
<221> VARIANT
<222> 2, 5
<223> Xaa = Any Amino Acid

<400> 5
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 1           5

<210> 6
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer for base-specific cleavage

<400> 6
cagtaatacg actcactata gggagaaggc tccccagcaa gacggactt          49

<210> 7
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer for base-specific cleavage

<400> 7
agaagagag cgccctcgca aagtacac                                28

<210> 8
<211> 340

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<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon for base-specific cleavage

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gtggccatca ttccttattt catcacgtg ggcaccgaga tagctgagca ggaaggaaac 120
cagaaggcg agcagggcac ctcccggcc atcctcaggg tcatccgctt ggttaagggtt 180
tttagaatct tcaagctctc ccgcactct aaggcctcc agatcctggg ccagaccctc 240
aaagcttagta tgagagagct agggctgctc atcttttcc tcttcatcgg ggtcatcctg 300
ttttctatgt cagtgtactt tgccgaggcg ctctttccct 340

<210> 9
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer for partial cleavage

<220>
<221> modified_base
<222> 1
<223> Biotinylated

<400> 9
cccaagtacg acgttgtaaa acg 23

<210> 10
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer for partial cleavage

<400> 10
agcggataac aatttcacac agg 23

<210> 11
<211> 117
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon for partial cleavage

<400> 11
cccaagtacg acgttgtaaa acgtccaggg aggactcacc atgggcattt gattgcagag 60
cagctccgag tccatccaga gttcctgca gtcacctgt tgaaatgtt atccgct 117

<210> 12
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Reference sequence

<220>
<221> misc_feature
<222> 11
<223> n = C or A

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<220>
<221> misc_feature
<222> 1, 2, 3, 8, 9, 10, 12, 13, 14, 19, 20, 21
<223> n = A,T,C or G

<400> 12
nnnactgnnn nnnntgacnn n 21

<210> 13
<211> 583
<212> DNA
<213> Artificial Sequence

<220>
<223> CETP Amplicon

<400> 13
cttcagtgt cacaccgacc ctatgagtgg ggccgtcaaa ctgtcccat tttacacaca 60
ggaaaactta gtgaatggca aggctgggt tgagcccagc tctattgccc ccaaagataa 120
ggctccattc cctgcgtccat ttcccaggca tagggacttg tagggggctg gaaccccagg 180
atcaactctg ggctcagagg gccccagcaa taagtactg ttgattactc ctgatcccaa 240
agctgacttc aggcaagctc cttggaggc gcagccctt ctgctatgc ccagtggcaa 300
tgatgttcat aatcccaactc ctcagtgcag ggttccacta agaaccatg atctcctacc 360
tcaaatggac ctcatgttt ctgagtaagc ctcctcagc tttctgtca cctcactccc 420
cccacccact gcaatgactt cttcaggcct tccctgccc cctcaaatct ccagctgccc 480
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gagccaccaa cagaacttcc ccccccacgac gctgctccca gtc 583

<210> 14
<211> 483
<212> DNA
<213> Mycobacterium abscessus

<300>
<308> EMBL Accession No. AJ536038
<309> 2003-01-03

<400> 14
acgggtgagt aacacgtggg tgatctgccc tgcactctgg gataaggctg ggaaaactggg 60
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gatgagcccg cggcctatca gcttgggtt gggtaatgg cccaccaagg cgacgacggg 180
tagccggcct gagagggtga cggccacac tggactgag atacggccca gactcctacg 240
ggaggcagca gtggggata ttgcacaatg ggcgcaagcc tgatgcagcg acgcccgcgtg 300
agggatgacg gccttcgggt tggaaacctc tttcactgatgg gacgaagcga aagtgacgg 360
acttacagaa gaaggacccg ccaactacgt gccagcagcc gcgtaatac gtagggtccg 420
agcggtgtcc ggaattactg ggcgtaaaga gctcgttagt gtttgcgc gttgttcgtg 480
aaa 483

<210> 15
<211> 495
<212> DNA
<213> Mycobacterium avium

<300>
<308> EMBL Accession No. AJ536037
<309> 2003-01-03

<400> 15
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tctaataccg gataggacct caagacgcat gtcttctgg gggaaagctt tgccgtgtgg 120
gatggggcccg cggcctatca gcttgggtt ggggtacgg cctaccaagg cgacgacggg 180
tagccggcct gagagggtgt cggccacac tggactgag atacggccca gactcctacg 240
ggaggcagca gtggggata ttgcacaatg ggcgcaagcc tgatgcagcg acgcccgcgtg 300
ggggatgacg gccttcgggt tggaaacctc tttcaccatc gacgaaggc cgggtttct 360
cgattgacg gtaggtggag aagaaggcacc ggcacactac gtcgcagcag cccgcgtaat 420

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acgttagggtg cgagcgttgt ccggaattac tggcgtaaa gagctcgtag gtggttgtc 480  
 gcgttgtcg tgaaa 495

<210> 16  
 <211> 495  
 <212> DNA  
 <213> *Mycobacterium celatum*

<300>  
 <308> EMBL Accession No. AJ536040  
 <309> 2003-01-03

<400> 16  
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 tctaataccg gataggacca tgggatgcat gtcttgggt ggaaagcttt tgcgggtgtgg 120  
 gatggggcccg cggcctatca gcttgggt ggggtgatgg cctaccaagg cgacgacggg 180  
 tagccggccct gagaggggtgt cggccacac tggactgag atacggccca gactcctacg 240  
 ggaggcagca gtgggaaata ttgcacaatg ggcaagggc tgatgcacg acgcccgcgtg 300  
 gggatgacg gccttcgggt tggaaacaccc ttccaccatc gacgaagctg cccgtttcc 360  
 ggtggtgacg gtaggtggag aagaagcacc ggccaactac gtgcccacg ccccggttaat 420  
 acgttagggtg cgagcgttgt ccggaattac tggcgtaaa gagctcgtag gtggttgtc 480  
 gcgttgtcg tgaaa 495

<210> 17  
 <211> 483  
 <212> DNA  
 <213> *Mycobacterium fortuitum*

<300>  
 <308> EMBL Accession No. AJ536039  
 <309> 2003-01-03

<400> 17  
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 tctaataccg aatatgacca cgcgcattcat ggtgtgtgg ggaaagcttt tgcgggtgtgg 120  
 gatggggcccg cggcctatca gcttgggt gggtaatgg cctaccaagg cgacgacggg 180  
 tagccggccct gagaggggtgt cggccacac tggactgag atacggccca gactcctacg 240  
 ggaggcagca gtgggaaata ttgcacaatg ggcaagggc tgatgcacg acgcccgcgtg 300  
 agggatgacg gccttcgggt tggaaacaccc ttccaccatc gacgaagcgc aagtgacgg 360  
 actatagaa gaaggacccg ccaactacgt gccagcagcc gcggtataac gtagggtccg 420  
 acgttgttgc ggaattactg ggcgtaaaga gctcgtaggt ggtttgtcgc gttgttcgtg 480  
 aaa 483

<210> 18  
 <211> 495  
 <212> DNA  
 <213> *Mycobacterium gordonae*

<300>  
 <308> EMBL Accession No. AJ536042  
 <309> 2003-01-03

<400> 18  
 acgggtgagt aacacgtggg taatctgccc tgcacatcg gataaggcttg ggaaactggg 60  
 tctaataccg aataggacca caggacacat gtccgtgg ggaaagcttt tgcgggtgtgg 120  
 gatggggcccg cggcctatca gcttgggt ggggtgatgg cctaccaagg cgacgacggg 180  
 tagccggccct gagaggggtgt cggccacac tggactgag atacggccca gactcctacg 240  
 ggaggcagca gtgggaaata ttgcacaatg ggcaagggc tgatgcacg acgcccgcgtg 300  
 gggatgacg gccttcgggt tggaaacaccc ttccaccatc gacgaaggtc cgggtttcc 360  
 cggcgtacg gtaggtggag aagaagcacc ggccaactac gtgcccacg ccccggttaat 420  
 acgttagggtg cgagcgttgt ccggaattac tggcgtaaa gagctcgtag gtggttgtc 480  
 gcgttgtcg tgaaa 495

<210> 19  
 <211> 495

&lt;212&gt; DNA

<213> *Mycobacterium intracellulare*

&lt;300&gt;

&lt;308&gt; EMBL Accession No. AJ536036

&lt;309&gt; 2003-01-03

&lt;400&gt; 19

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acgggtgagt aacacgtggg caatctgccc tgcacttcgg gataaggctg ggaaactggg 60
tctaataccg gataggacat ttggcgcat gtctttaggt ggaaagctt tgcgggtgtgg 120
gatggggcccg cggcctatca gcttgggtt ggggtatgg cctaccaagg cgacgacggg 180
tagccggcct gagaggggtgt cggccacac tggactgag atacggccca gactcctacg 240
ggaggcagca gtgggaaata ttgcacaatg ggcgaagcc tgatgcagcg acgcccgtg 300
ggggatgacg gccttcgggt tggaaaccc tttcaccatc gacgaaggc cgggtttct 360
cgatttgcacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
acgtagggttgcg cgagcgttgcg ccggaaattac tggcgtaaa gagctcgtag gtgggttgcg 480
gcgttggttcg tgaaa

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&lt;210&gt; 20

&lt;211&gt; 495

&lt;212&gt; DNA

<213> *Mycobacterium kansasii*

&lt;300&gt;

&lt;308&gt; EMBL Accession No. AJ536035

&lt;309&gt; 2003-01-03

&lt;400&gt; 20

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acgggtgagt aacacgtggg caatctgccc tgcacaccgg gataaggctg ggaaactggg 60
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gatggggcccg cggcctatca gcttgggtt ggggtacgg cctaccaagg cgacgacggg 180
tagccggcct gagaggggtgt cggccacac tggactgag atacggccca gactcctacg 240
ggaggcagca gtgggaaata ttgcacaatg ggcgaagcc tgatgcagcg acgcccgtg 300
ggggatgacg gccttcgggt tggaaaccc tttcaccatc gacgaaggc cgggttct 360
cgatttgcacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
acgtagggttgcg cgagcgttgcg ccggaaattac tggcgtaaa gagctcgtag gtgggttgcg 480
gcgttggttcg tgaaa

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&lt;210&gt; 21

&lt;211&gt; 495

&lt;212&gt; DNA

<213> *Mycobacterium marinum*

&lt;300&gt;

&lt;308&gt; EMBL Accession No. AJ536032

&lt;309&gt; 2003-01-03

&lt;400&gt; 21

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acgggtgagt aacacgtggg cgatctgccc tgcacttcgg gataaggctg ggaaactggg 60
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gatggggcccg cggcctatca gcttgggtt gggtaacgg cctaccaagg cgacgacggg 180
tagccggcct gagaggggtgt cggccacac tggactgag atacggccca gactcctacg 240
ggaggcagca gtgggaaata ttgcacaatg ggcgaagcc tgatgcagcg acgcccgtg 300
ggggatgacg gccttcgggt tggaaaccc tttcaccatc gacgaaggc cgggtttct 360
cgatttgcacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
acgtagggttgcg cgagcgttgcg ccggaaattac tggcgtaaa gagctcgtag gtgggttgcg 480
gcgttggttcg tgaaa

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&lt;210&gt; 22

&lt;211&gt; 492

&lt;212&gt; DNA

<213> *Mycobacterium scrofulaceum*

&lt;300&gt;

&lt;308&gt; EMBL Accession No. AJ536034

&lt;309&gt; 2003-01-03

<400> 22  
 acgggtgagt aacacgtggg caatctgccc tgcacttcgg gataaggctg ggaaactggg 60  
 tctaataccg gataggacca cttggcgcat gccttgggt ggaaagctt tgcgggtgtgg 120  
 gatggggcccg cggcctatca gctagttggt ggggtgatgg cctaccaagg cgacgacggg 180  
 tagccggccct gagagggtgt cggccacac tggactgag atacggccca gactcctacg 240  
 ggaggcagca gtgggaaata ttgcacaatg ggcgcaagcc tgatgcagcg acggcgctg 300  
 gggatgacg gccttcgggt tggaaaccctc ttccaccatc gacgaaggct cactttgtgg 360  
 gttgacggta ggtggagaag aagcaccggc caactacgtg ccagcagccg cgtaatacg 420  
 tagggtgccgca gcggtgtccg gaattactgg gcgtaaagag ctcgtaggtg gttgtcg 480  
 ttgttcgtga aa 492

&lt;210&gt; 23

&lt;211&gt; 485

&lt;212&gt; DNA

<213> *Mycobacterium smegmatis*

&lt;300&gt;

&lt;308&gt; EMBL Accession No. AJ536041

&lt;309&gt; 2003-01-03

<400> 23  
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 tctaataccg aatacaccct gctggtcgca tggcctggta gggaaagct ttgcgggtgt 120  
 gggatgggccc cgccggctat cagcttggt gtgggggtat ggcctaccaa ggcgacgacg 180  
 ggtagccggc ctaggggggt gacccggccac actggggactg agatacggcc cagactccta 240  
 cgggaggcag cagtggggaa tattgcacaa tgggcgaag cctgatgcag cgacgcccgc 300  
 tgaggatgatc cggccttcgg gttgtaaacc tcttcagca cagacgaagc gcaagtgacg 360  
 gtagtgcag aagaaggacc ggccaactac gtgccagcg ccgcggtaat acgtagggtc 420  
 cgagcgttgtt ccggattac tggcgtaaa gagctcgtag gtggttgtc gcgttgttc 480  
 taaaa 485

&lt;210&gt; 24

&lt;211&gt; 497

&lt;212&gt; DNA

<213> *Mycobacterium tuberculosis*

&lt;300&gt;

&lt;308&gt; EMBL Accession No. AJ536031

&lt;309&gt; 2003-01-03

<400> 24  
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 tctaataccg gataggacca cgggatgcatt gtcttgggt ggaaagcgct ttagcggtgt 120  
 gggatgagcc cgccggctat cagcttggt gtgggggtat ggcctaccaa ggcgacgacg 180  
 ggtagccggc ctaggggggt gtccggccac actggggactg agatacggcc cagactccta 240  
 cgggaggcag cagtggggaa tattgcacaa tgggcgaag cctgatgcag cgacgcccgc 300  
 tgaggatgatc cggccttcgg gttgtaaacc tcttcacca tcgacgaagg tcgggttct 360  
 ctcggattgatc cggtaggtgg agaagaagca ccggccaact acgtgccagc agccgcggta 420  
 atacgttaggg tgcgagcgtt gtccggatt actggggcgta aagagctcgta aggtggttt 480  
 tcgcgttgtt cgtaaaa 497

&lt;210&gt; 25

&lt;211&gt; 499

&lt;212&gt; DNA

<213> *Mycobacterium xenopi*

&lt;300&gt;

&lt;308&gt; EMBL Accession No. AJ536033

&lt;309&gt; 2003-01-03

<400> 25  
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gtgggatggg cccgcggcct atcagcttgc tgggggggtg atggcctacc aaggcgacga 180  
 cgggtagccg gcctgagagg gtgtccggcc acactggac tgagatacgg cccagactcc 240  
 tacgggagggc agcagtgggg aatattgcac aatggggcga agcctgatgc agcgacgccc 300  
 cgtggggat gacggccttc gggttgtaaa ccccttcag cctcgacgaa gctgcgggtt 360  
 ttctcggtt gacggtaggg gcagaagaag caccggccaa ctacgtgcca gcagccgcgg 420  
 taatacgtag ggtcaagcg ttgtccggaa ttactggcg taaagagctc gtaggcggct 480  
 tgtcgcgttg ttctggaa 499

<210> 26  
 <211> 492  
 <212> DNA  
 <213> *Mycobacterium paraffinicum*

<400> 26  
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 gatggggcccg cggcctatca gcttgggtt ggggtatgg cctaccaagg cgacgacggg 180  
 tagccggccct gagaggggtt cggccacac tggacttag atacggccca gactcctacg 240  
 ggaggcagca gtggggata ttgcacaatg ggcgaagcc tgatgcagcg acgcccgtg 300  
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 gttgacggta ggtggagaag aagcaccggc caactacgtg ccagcagccg cgtaatacg 420  
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 ttgttcgtga aa 492

<210> 27  
 <211> 483  
 <212> DNA  
 <213> *Mycobacterium interjectum*

<400> 27  
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 gatggggcccg cggcctatca gctagttggt ggggtacgg cctaccaagg cgacgacggg 180  
 tagccggccct gagaggggtt cggccacac tggacttag atacggccca gactcctacg 240  
 ggaggcagca gtggggata ttgcacaatg ggcgaagcc tgatgcagcg acgcccgtg 300  
 gggatgacg gccttcgggt tggaaacctc tttcaccatc gacgaaggct aagtgacgg 360  
 acctggcagaa gaaggaccgg ccaactacgt gccaggcagcc gcgtaatacg ttagggtgcg 420  
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 aaa 483

<210> 28  
 <211> 484  
 <212> DNA  
 <213> *Mycobacterium aurum*

<400> 28  
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 tctaataccg aataggacta cggcatgcac gtgttgggt ggaaagctt tgcgggtgtgg 120  
 gatggggcccg cggcctatca gcttgggtt gaggttacgg ctcaccaagg cgacgacggg 180  
 tagccggccct gagaggggtt cggccacac tggacttag atacggccca gactcctacg 240  
 ggaggcagca gtggggata ttgcacaatg ggcgaagcc tgatgcagcg acgcccgtg 300  
 agggatgacg gccttcgggt tggaaacctc tttcaccatc gacgaaggct aagtgacgg 360  
 acctggagaa gaaggaccgg ccaactacgt gccaggcagcc gcgtaatacg ctaggggtgc 420  
 gagcgttgcgtcc gggaaattactt gggcgtaaaag agctcgttagt tggtttgcgc cgttgcgt 480  
 gaaa 484

<210> 29  
 <211> 1542  
 <212> DNA  
 <213> *Escherichia coli*

<300>  
 <308> GenBank Accession No. AE000460  
 <309> 2003-01-03

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<210> 30
<211> 340
<212> DNA
<213> Bordetella avium
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<400> 30
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gccttagtc  gggggataac  tacgcgaaag  cgtactaat  accgcatacg  ccctacgggg  180
gaaagcgggg  gacccctcggg  cctcgaacta  tttagacggc  cgatatcgga  tttagctagg  240
ggtggggtaa  cggtcacca  aggcgacgat  ccgttagctgg  tttagaggg  cgaccagcca  300
cactgggact  gagacacggc  ccagactcct  acgggaggca  340
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<210> 31
<211> 339
<212> DNA
<213> Bordetella trematum
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<400> 31
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ggcagcacgg  acttcggct  ggtggcgagt  ggcgaaacggg  tggataatgt  atcggAACgt  120
gcccagtagc  gggggataac  tacggcaaaag  cgtggctaatt  accggatcag  ccctacgggg  180
aaaggcggggg  accttcgggg  ctcgcactat  ttggacggcc  gatatacggt  tagctatgtt  240
gtggggtaac  ggctcaccaa  ggcgacgatc  cgtagctgg  ttgagaggac  gaccagccac  300
actgggactg  agacacggcc  cagactccta  cgggaggca  339

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<210> 32
<211> 1496
<212> DNA
<213> Bordetella petrii
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<220>
<221> misc_feature
<222> 821
<223> n = A, T, C or G
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 gca 363

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 <212> DNA  
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 gca 363

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 tagagtggca agagggaaagg ccgaaaggcg ctttgggagg ggcctgcgtc ccatcagcta 240  
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 ccgaagagcg ggataacaga ccgaaaggac tgctaatacc gcatgagctc tcggcagtt 180  
 gaggggccga gaggaaaggc ccgaaaggcg tttgggaggg gcctgcgtcc catcagctag 240  
 ttggcgaggt aagagctcac caaggcgatg acgggttaggg gacctgagag ggtgacccc 300  
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 <213> *Bordetella* strain B6-52

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 gcccattttgtt gggggataac gcgccgaaag tcgcgctaatt accgcatacg ccctgagggg 180  
 gaaagcgggg gattttcgg aacctcgccg aattggagcg gccgatgtca gattagctag 240  
 ttggtagggtaaaggcctac caaggcgacg atctgttagcg ggtctgagag gatgatccgc 300  
 cacactggga ctgagacacg gcccagactc ctaacgggagg ca 342

<210> 38  
 <211> 342  
 <212> DNA  
 <213> *Bordetella* strain B6-60

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 gcccattttgtt gggggataac gcgccgaaag tcgcgctaatt accgcatacg ccctgagggg 180  
 gaaagcgggg gattttcgg aacctcgccg aattggagcg gccgatgtca gattagctag 240  
 ttggtagggtaaaggcctac caaggcgacg atctgttagcg ggtctgagag gatgatccgc 300  
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<400> 39  
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<220>  
 <223> Primer RTU8

<400> 40

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<223> Primer Myko109-T7	
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gctcagacac cacgttcctg gagatggg gtgggggtgct gagggggcaga gggaaagtgc 180	
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<223> K-Ras Amplicon	
<400> 44	
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cagtacctt taatacaaaac tcacctttat atgaaaaatt atttcaaaat accttacaaa 240	
attcaatcat gaaaattcca gttgactgc 269	
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<213> Artificial Sequence	
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<221> misc_feature
<222> 123
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gAGTACAGCA gTTATAACTA tagGTGAGGC tGGAAAGATG gCTTCCCATA gATCTGTTCC 120
cANAGGGCTC ttGAAAACAG gCCAGCTGCC cAGGGCATTt gGGGACTGAA tGTCCACCTT 180
aTTCTCCAG gGGCTTGTAC atTGGGAACC aTTTTGTGA gTGGGTtTA tGATTATACTC 240
aCGAGGAATG gCCTTCTAC aAAGCAAGGC CCACAGACTA cCCCACtCAA gAACAGCAGG 300
tATGTGGGCC agAGGCTGGG gAGCAGGACC cATCCTGTGA gGAAGGAGGG aGtGGAGtC 360
tGAAAGGAAT gGCCGGAAAG gATGTTACtTt gGGAAATACT CCACAGTCTC CCCAATTCTC 420
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<211> 429
<212> DNA
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<223> Amplicon 2

<220>
<221> misc_feature
<222> 174, 179
<223> n = T or G

<220>
<221> misc_feature
<222> 317
<223> n = C or T

<400> 46
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gcctaACACT taaaaATGC actCATTtAC ttaACCTAA taaATCCAG agTNTATTNT 180
ggttctcctc tGTTGCCtTt cctaaaaAAAG gAGCTGAAGA tGACAGTATT tttCTTACA 240
tGTTGGTTA tGACTTTAA agTTTATTtTt aaATAATGT tGAAGCTCAA gTTAAAGAA 300
gcGTTGcAGA gGCCcANGGT cTCCTGGGTc ccGGCCACCT gTCCATATTc cacATTGCT 360
gACTGTGCTC cCTGCACTCC actCAAGTTG agAGTTCAAAG tagTCTGAA gGGGAATCAG 420
cttcaggat                                         429

<210> 47
<211> 465
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 3

<220>
<221> misc_feature
<222> 285, 286
<223> n = G or A

<400> 47
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gtaAGAGGCA tcCTAGGAGT tacAGAAATGT ctACATTCTA cAGAAATGTC tTCCTCTCAA 180
gtCTTcAGAG agCAAAGGTC acAGCTACtTtTtC cACTTCAAGC acAGATTGTA 240
tGCTCTGAAGA ctACATACtTtC tGcATTATCA accAGTTcAG CAAGNNcACC AAACAAGAA 300
tCGTGAgtGG ttCTGAAATG atAAATAACTA aaAGTCAGCA AAAGAATTtT tGAAGTTATA 360
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<212> DNA
<213> Artificial Sequence

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<223> Amplicon 4

<220>
<221> misc_feature
<222> 131
<223> n = A or G

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ctcattttaa nccattaaa tattctgagt gagactaatc actcatttgc ctacgacctt 180
tttagaaaaagt tttttgttg aaatactgta cgtacgctta atctaaattt gcattgacta 240
tgttttagtg tatttataaa tggtaactc agtttctgaa attaaacttc ttatttgcaa 300
ttttcttagtg ctggcagaca ctggctttt atttttagga taagaaaaaca ggcataattct 360
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gacagg 426

<210> 49
<211> 533
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 5

<220>
<221> misc_feature
<222> 47, 50, 51, 52
<223> n = A or G

<220>
<221> misc_feature
<222> 111, 135, 185, 359
<223> n = T or C

<220>
<221> misc_feature
<222> 198
<223> n = T or G

<220>
<221> misc_feature
<222> 253
<223> n = C or A

<400> 49
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atttggagac ttgcgtggca gtttgcgtt ggaatcacct ggtgcctccc tttacgtcc 180
cccanccctgt gcccaganc ccttcgcaag caccatatgc ttttagatcc tcgagcagcc 240
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gcaggattcc ttagagaagc tgaagggtt gggcctcag ctcctggccg gggcaagtct 480
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<210> 50
<211> 422
<212> DNA

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&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Amplicon 6

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; 131

&lt;223&gt; n = C or G

&lt;400&gt; 50

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caaggcttga ctgaaggacc tcatccagag tcactatcg agctcgctcc agcaactctcc 60
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tttacaagac ccccgcggtgg cacctgtggc gtggcacctg tgtgcactcg tttttcaaa 420
gc                                              422

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&lt;210&gt; 51

&lt;211&gt; 411

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Amplicon 7

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; 228, 230, 235, 236, 240, 243, 245

&lt;223&gt; n = A or T

&lt;400&gt; 51

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tattgtgcca tatgtcgtt ttagcaactt gcttttagct gacgttctgt tttcaagatt 180
catccatgtt gctgcataaa cctaacattc acttactgtt gctggtnan aacannccan 240
cangngagca cagacatttgg ggttggttcc aagacatgtt tcaatggcaa aatattaagat 300
gtctgacaaa accaagagtt ggagaggatg tggatggctt ggaattttat ctgctcctt 360
acacccactc tggaaaaact gtacaaacaa ttctgcaagg atttttccag a      411

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&lt;210&gt; 52

&lt;211&gt; 445

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Amplicon 8

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; 84

&lt;223&gt; n = C or G

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; 265, 269

&lt;223&gt; n = T or C

&lt;400&gt; 52

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ccagcgctgg ctgcaaccaa ggagcatgtc ttgcattgtc atacttctgc ttccaaacag 180
ccctcttttg tttgtgtgtt gaaatccca taccgtctgc catctcagca ttcctctgg 240

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 <213> Artificial Sequence

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<220>  
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 <222> 136  
 <223> n = A or C

<220>  
 <221> misc\_feature  
 <222> 385  
 <223> n = G or A

<400> 53  
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 gccct 425

<210> 54  
 <211> 424  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Amplicon 10

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 <222> 76  
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 atatttctga caacctgtaa ctctggcag gcccactgca gctgacccca gctactgcag 360  
 aaaaatgaagg ccagacaaaag gagagggcca cactgctccc aagtggtggaa gctgttggc 420  
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<210> 55  
 <211> 393  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Amplicon 2.1

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<221> misc_feature
<222> 157
<223> n = T or A

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ggccctacc cactgattga ttggacctgt gcctccncca ggtgatggtc aagtggactt 180
ttaggagttt gtgacccctc tgggacccaa acttccacc tcaggatcc cagagaagt 240
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<210> 56
<211> 499
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 2.2

<220>
<221> misc_feature
<222> 103
<223> n = T or G

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cagtatgaaa atgaggagac ttacagggtg cgaacattcc agataggtac aggggagaaa 180
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ctgtgaaaag gctgctgag 499

<210> 57
<211> 399
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 2.3

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<221> misc_feature
<222> 31
<223> n = C or G

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gagggttctg gttccttct tggacagcag ggtggagtgg gcateccttcc ggggatccac 180
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tgatgtcct gctcccttag accagtgacc cacattctg ggaacagggc cacggagtcc 360
tgtggcagct ccagactgtg aaatgttatt ggagccagc 399

<210> 58
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<212> DNA
<213> Artificial Sequence

<220>

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<223> Amplicon 2.4  
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 ggttagccac ctgagaatcg ccacagggtgc actgttgggg gtgagaggta taggtcagtg 180  
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 aggccgggttg gcctgggtcc ctgttagcagc aagactccct gagttccctc tgccttggtg 300  
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 <223> n = A or G  
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 tgcgtctgg tctcggact cttggagct gatcactctc ttgctccctg cctaggcccc 180  
 tctccagaag gcccgtatgcc cctgggtggg ggcgaggacg aggtatcaga ggaggcagta 240  
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 <223> n = G or C  
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 <222> 254  
 <223> n = C or A  
 <220>  
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 <222> 283  
 <223> n = A or C

<400> 60  
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 gacctctttg ntctcttgcg cagatgatga gtctccgggg ctctatgggt ttctgaatgt 180  
 catcgccac tcagccactg gatthaagca gagttcaagt aagtactggg ttggggagn 240  
 gggtgcagc ggcngagcca gggctccac ccaggaagga ctnatcgccg agggtgtggg 300  
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 tttgtgtgg ttgatgcctt ctgggtgtgg aattgt 396

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<220>  
 <223> Amplicon 2.7

<220>  
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 agtggttctg aaatgataaa tactaaaagt cagcaaaaga attattgaag ttataattcc 180  
 taataaaaag ccatggttat aaaatattt agttttga aaaaaatctt aaaaccacca 240  
 ttgcattgt ttttatacta ctcaaggctt tccagagctc cccaactccc ctcaattgtt 300  
 aatctttaac aagtccgtcc atctattcag aaatgattat tcttcattt ttgagttggg 360  
 aaacccac 368

<210> 62  
 <211> 451  
 <212> DNA  
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<220>  
 <223> Amplicon 2.8

<220>  
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<220>  
 <221> misc\_feature  
 <222> 341  
 <223> n = G or T

<400> 62  
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 cacctgcctt cagaccagcc ccctgtgccc ccagccgccc caccacccac agaccccaga 180  
 gggaggacgt caggcgtcca ggctggccacc tttagctgg gcagggcncc gggatggca 240  
 tctgcattgg caactgcacc cttggagcgc accaggcagt ccccaaaatt aatcacctcc 300  
 acctgcccga aggtcttcaa ggtctgtgag gggaaagcaa ngtccagag tgagggtgca 360  
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<210> 63  
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<220>

<223> Amplicon 2.9

<220>  
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 <223> n = C or G

<220>  
 <221> misc\_feature  
 <222> 696, 741  
 <223> n = C or T

<220>  
 <221> misc\_feature  
 <222> 771  
 <223> n = A or T

<400> 63

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gcagccactg	gcttaaggtc	accaagaaag	agcggagggg	cggggctgcg	gcaggctcc	480
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caccgcactt	atcctaccga	agcgttcaga	cctgcccggc	tttctgactc	gaatccggta	600
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aacctatca	aatccccctt	agcaacgtt	tgcccnngccc	atatgggtcc	ggcctccca	720
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 <212> DNA  
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<220>  
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<220>  
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 <222> 378  
 <223> n = T or G

<400> 64

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tcagccccca	ccccggggcc	attttacaga	agaaaaacac	aaggctcagg	aagtcaagg	180
ccacccaagg	aaggctctac	ggctcaggga	ggagcccagg	tccaggtcct	gggacctggg	240
tgtgtggggc	gtgcagagcc	tgagctggga	cccagtgtt	aggttcaggc	gggcccggagc	300
tcagcaccac	ctggcccccgg	ctgaccgtac	tggggccccc	gctaacctct	gcctcctttc	360
ctcttacctt	cccagggnaa	tgatgcggaa	gagcctaagg	gggtcaccag	cgaaggtagt	420
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<210> 65  
 <211> 395  
 <212> DNA  
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<220>  
 <223> Amplicon 2.11

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<220>
<221> misc_feature
<222> 137
<223> n = A or G

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tggggcaag agccctntgg gaacagatct atgggaagcc atctttccag cctcacctat 180
agttataact gctgtactcg aagtccacca gcatgaggct gtcagcattt tctggctctg 240
agagcagcaa gatgtccct gggggatgg ggtgagggtc tgctcactcc agagccctct 300
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gtggcagaag acgactggcg atgggttaca ctcta 395

<210> 66
<211> 353
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 2.12

<220>
<221> misc_feature
<222> 249
<223> n = A or G

<400> 66
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ccattcctcg ttagtataat cataaaaccca ctcacaaaaaa tggttcccaa tgtcaaagcc 180
cctgggagaaa taaggtggac attcagtccc caaatgcctt gggcagctgg cctgtttca 240
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<210> 67
<211> 598
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 2.13

<220>
<221> misc_feature
<222> 80, 206, 295, 373, 400, 479
<223> n = A or G

<220>
<221> misc_feature
<222> 315, 317, 318
<223> n = A or T

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aacgagttac ctaacctctc cgagttatc tacaaggatc gaatgtatcc tccctctatag 180
agctatttgcg agaataagga gatggnggg a ggtcacacca tcccccaactt accaaggat 240
cttccctctga cagagactga gcaagatcca gctggctga gctgtgtggc ttcncctcc 300
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tcgaaaggtt aantgaaagt cacaactcc cagcagctcna caatcaagca cagcaaacac 420
gctgtccccc agcacctctc gcagttccgc cccacccctcc ttgctgtgc gtttagagna 480
gcagcctgag accagacaccc caggtcttcc tcatccaacc cacctggctg gcatcctcgg 540
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 <221> misc\_feature  
 <222> 154  
 <223> n = A or G  
  
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 cagcaggatt ttcagatgca ctgggctaac tttcttctgg aagtattcaa tgacttcttc 240  
 agtgaagcgt ttctttcta gttggaaaca aaaaggataa gattggaaga aagtttgcta 300  
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 <221> misc\_feature  
 <222> 277  
 <223> n = T or A  
  
 <220>  
 <221> misc\_feature  
 <222> 304  
 <223> n = T or C  
  
 <400> 69  
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 cctggctaat gccaccctct cttccggctg cctttcagga agaccatgct caatgacctc 180  
 ctgcgggtcg atgtgaaaga ctgctcctgg tgcaggtggg tggcccccgtg ctccaggggcc 240  
 ctgcctttcc tcctagaaca cagtggcaca gtgctgggtc ccagttgcta gcagagtctc 300  
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<210> 71  
 <211> 380  
 <212> DNA  
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<220>  
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<220>  
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 <223> n = A or C

<220>  
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 <223> n = C or T

<220>  
 <221> misc\_feature  
 <222> 350  
 <223> n = A or G

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 ttgaattcaa ggacaagacg tgagtactct ggccagtggg gtggagggag gacggtcagt 300  
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 <211> 698  
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<220>  
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<220>  
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<220>  
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<220>  
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 <222> 257  
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 aatgaaatg cagtgattaa aggacacaag gcctcagtgt gcatttcattt cattgtggct 180  
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 gaagtccctg gccttcagaa tgacctcatg ggcttcctgg aagaggctt ccccaactgc 480  
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<220>  
 <223> Amplicon 2.20

<220>  
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 <222> 98  
 <223> n = C or G

<220>  
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 <222> 114  
 <223> n = G or A

<400> 74  
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 cagaactcct gcacgtgctc aaaccaggag ccgtagccca ctgcggagac aggggacagg 240  
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<210> 75

<211> 383  
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 <223> n = A or G  
  
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 <223> n = C or deletion  
  
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 cctacggcgt cc当地accgcct gacc当地cgggc ctgct当地ggcc cggggggagg ggc当地ttctg 240  
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 <223> Amplicon 2.22  
  
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<211> 355  
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 <222> 183, 256, 284, 327  
 <223> n = C or T  
  
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 agaggagagg cttaaatcct tttgttttgc aacttagatc aaattactca taaaacaaga 180  
 tgatgacctt gaagttcccg cctatgaaga catcttcagg gatgaagagg agatgaaga 240  
 gcattcagga aatgacagtg atgggtcaga gccttctng aagcgcacac gttagaaga 300  
 ggtgagttt ggtctctcac agctatccca gaggacttg cactccaga ggtcggaggt 360  
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 <211> 379  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Amplicon 2.26  
  
 <220>  
 <221> misc\_feature  
 <222> 44  
 <223> n = C or T  
  
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 tgccctgtt gtcgtgggtga tgcccggtcg gcctctcgca tggcgatga catgctgaag 300  
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 <210> 81

<211> 398  
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 <223> Amplicon 2.27  
  
 <220>  
 <221> misc\_feature  
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 aaaataagct tgctccaaaa gctgaataac atcaacacaa atattcttg tagagagatg 300  
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 <211> 371  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Amplicon 2.28  
  
 <221> misc\_feature  
 <222> 291  
 <223> n = A or G  
  
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 <211> 395  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Amplicon 2.29  
  
 <220>  
 <221> misc\_feature  
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 cccgcccattc gtcccccattc cgcatcactc ggtctctccc acagggtatga cggAACACAC 180  
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 <210> 84

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<211> 328
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 2.30

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<221> misc_feature
<222> 257
<223> n = C or T

<400> 84
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gcacatgggtgc acatcccagt ccacgcacgg gatcctgggt acagacacgc ctgggtggcaa 180
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tggcacacac ctgtgttagcc cgtgtttc 328

<210> 85
<211> 483
<212> DNA
<213> Mycobacterium chelonae

<400> 85
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aaa 483

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